

REMARKS

I. Status of the Application

Claims 29-37, 39-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida US 5,574,117 in view of EP 0478067. Claim 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Wieczorrek US 4,409,266. Applicants have amended the claims to more clearly define and distinctly characterize Applicants' novel invention. Specifically, claim 35 has been amended to clarify the Markush group and new claim 41 has been added which is identical to claim 1 except that it recites a glass transition temperature range of between about 10°C to about 20° C. Support for the limitation is found at page 6 of the specification where the ranges of 10°C to 60°C and 20°C to 50°C are disclosed. Applicants respectfully submit that one of skill in the art would understand that applications were in possession of the claimed range of between about 10°C to about 20° C due to the lower ends of the two disclosed ranges. Thus, the amendments presented herein add no new matter. Applicants respectfully request entry and consideration of the foregoing amendments and reconsideration of the application in view of the following remarks, which are intended to place this case in condition for allowance.

II. Claims 29-40 Are Not Obvious in View of Yoshida, EP 0478067 and Wieczorrek

At page 2 paragraph 3 of the present office action, claims 29-37 and 39-40 stand rejected as being obvious in view of the Examiner's combination of Yoshida and EP 0478067. Claim 38 stands rejected as being obvious in view of Yoshida, EP 0478067 and further in view of Wieczorrek. At page 5 of the present office action, the Examiner readily admits that Yoshida does not teach or suggest application of any of its formulations to a transparent substrate, such as

a greenhouse. This is because Yoshida fails to teach or suggest that its formulations could or would be successfully employed on the transparent surfaces of a greenhouse to reduce light intensity inside of the greenhouse while withstanding the forces of weather during the growing season, and eventually followed by the advantageous removal of the formulation from the transparent surfaces of the greenhouse at the end of the growing season. More than an intended use, the present claims are specifically directed to the novel combination of a greenhouse and the protective coating having binder with the defined features of weight average molecular weight, acid value, polydispersity and glass transition temperature.

In rejecting the claims as being obvious, the Examiner has chosen to rely on EP 0478067 to cure the deficiencies of Yoshida insofar as EP 0478067 teaches the application of a formulation, *very different from the claimed formulation*, to the glass plates of a greenhouse. As stated at page 3 of the present office action, the Examiner believes that one of skill in the art would be motivated to substitute the EP formulation with the Yoshida *packaging or separating film* disclosed at col. 8 lines 17-27 because Yoshida discloses that its packaging film has an unspecified and clearly ambiguous “agricultural use.” This is the only product of Yoshida that is said to have the unspecified and ambiguous “agricultural use.” No other products, such as the water ink, the alkali-soluble injection molding, the acrylic rubber, the pressure sensitive adhesive or the alkali-soluble adhesive are taught or apparently believed by Yoshida to have the “agricultural use.”

Applicants respectfully traverse the Examiner’s rejection. Yoshida fails to teach or suggest the claimed protective coating on a greenhouse of a pigment and binder having the recited weight average molecular weight, acid value, polydispersity and glass transition temperature. At page 2 of the present office action, the Examiner is clearly mixing values from

different examples of Yoshida (i.e. alkali soluble film, acrylic rubber, alkali soluble adhesive) presumably because Yoshida provides no single actual example of a polymer that expressly recites all of the claimed requirements of weight average molecular weight, acid value, polydispersity and glass transition temperature. In fact, Yoshida describes very different products having very different utilities such as alkali-soluble adhesives, alkali-soluble films, pressure sensitive adhesives, acrylic rubbers, alkali-soluble injection moldings and water inks. Each of these specific products would likely have very different physical and chemical properties, and are presumably not interchangeable, i.e. an acrylic rubber will likely not serve as a water ink, which likely will not serve as an alkali-soluble film.

A review of the polymer examples for each of these very different products beginning at col. 20 through 60 reveals that Yoshida fails to identify claimed values for all four claimed parameters for any of the polymer examples. Many of the polymer examples have one or more parameters that are outside those recited in the present claims. For certain of the polymer examples that recite parameters within the claimed ranges such as Example 2-21 mentioned by the Examiner at page 3 of the office action, the critical parameter of glass transition temperature is glaringly absent, leaving for one of skill in the art to guess the glass transition temperature.

At page 2 of the office action, the Examiner cites the abstract for teaching a glass transition temperature for the generic acrylic polymer as being -80° or higher. However, this range is open-ended on the high side and cannot fairly teach a glass transition temperature within Applicants' claimed range of 10°C to 60°C . This is because the specific Examples provided by Yoshida of polymers having glass transition temperatures capable of being as low as -80°C are all in the low negative numbers and are not within the claimed range of 10°C to 60°C . Accordingly, even though Yoshida uses the open ended "or higher" language, this language

simply does not put Yoshida in possession of a range of between -80°C and 60°C nor would one of skill in the art recognize that the open-ended language included the upper limit of 60°C based on the Examples provided by Yoshida as representative of the *working* invention.

In addition, Yoshida discloses broad open-ended ranges for each type of polymer product at columns 3-9. A summary of the broad ranges for each polymer product is set forth below.

Alkali-Soluble Adhesive

| | |
|--------------------|-----------------|
| Number average MW | 5,000 – 200,000 |
| Acid Value | 65 or higher |
| Polydispersity | 3 or less |
| Glass Transition T | 0 or higher |

Alkali-Soluble Film

| | |
|--------------------|------------------|
| Number average MW | 10,000 – 500,000 |
| Acid Value | 65 or higher |
| Polydispersity | 4 or less |
| Glass Transition T | 0 or higher |

Pressure Sensitive Adhesive

| | |
|--------------------|------------------|
| Number average MW | 10,000 – 500,000 |
| Acid Value | |
| Polydispersity | 1-4 |
| Glass Transition T | -80 to -30 |

Acrylic Rubber

| | |
|--------------------|---------------------|
| Number average MW | 200,000 – 1,000,000 |
| Acid Value | |
| Polydispersity | 3 or less |
| Glass Transition T | -80 to 0 |

Alkali-Soluble Injection Molding

| | |
|--------------------|-----------------|
| Number average MW | 5,000 – 200,000 |
| Acid Value | 65 or higher |
| Polydispersity | 4 or less |
| Glass Transition T | 70 or higher |

Water Ink

| | |
|--------------------|----------------|
| Number average MW | 1,000 – 50,000 |
| Acid Value | 65 or higher |
| Polydispersity | 3 or less |
| Glass Transition T | 30 or higher |

Yoshida describes each type of polymer product as having very different applications or utilities, yet Yoshida does not take care to discriminate the ranges for the polymers that have the asserted particular utilities. In fact, based on the above summarized disclosure from Yoshida, a polymer having a number average molecular weight of 200,000, an acid value of 65, a polydispersity of 3 and a glass transition temperature of 0°C can be a alkali-soluble adhesive, an alkali-soluble film, and an acrylic rubber *all at once!* These assertions of utility for the same polymer are obviously incredulous. Likewise, according to Yoshida, a polymer having a number average molecular weight of 50,000, an acid value of 65, a polydispersity of 3 and a glass transition temperature of 70 can be a water ink, an alkali-soluble injection molding, an alkali-soluble film and an alkali-soluble adhesive *all at once!* Again, clearly, these assertions of utility for the same polymer are incredulous.

The general discussion within Yoshida about broad ranges resulting in particular polymer applications or utilities amount to no more than unreliable guesses and should be disregarded. The ranges are not representative of the applications or utilities for the various polymers as demonstrated by the fact that a single polymer having specific values can miraculously have many different and mutually exclusive properties or utilities. Accordingly, the Examiner has not identified any reliable teaching from Yoshida of a polymer that meets all of the limitations of the claimed binder and for application as a protective coating to a greenhouse.

EP 0478067 fails to cure the deficiencies of Yoshida. EP 0478067 teaches a very different protective coating and so the combination of Yoshida and EP 0478067 fails to teach the claimed binder. Because the two references together fail to teach the claimed binder, (including that of new claim 41) they cannot result in the obviousness of the claimed subject matter. Further, Yoshida's mentioning of an "agricultural use" for *only* the separating film is unspecific and vague. It likely refers to the use of a flexible nonadhesive wrapper film for wrapping or separating agri-products that are not to be exposed to weather elements, as opposed to a protective coating adhered to the glass surface of a greenhouse. In addition, the coating of EP 0478067 is a liquid applied by spraying to the surface of the greenhouse which is very different from the preformed polymer separating film of Yoshida. Accordingly, Yoshida fails to provide any motivation to substitute its polymer separating film for that of the greenhouse protective coating of EP 0478067.


The Examiner's discussion of attacking references individually is noted. However, the Applicants are clearly identifying the deficiencies of the references, which is entirely right and proper, and how the combination not only fails to teach or suggest all of the claim limitations, but also lacks motivation to substitute the polymer of Yoshida for the protective coating of EP 0478067.

III. Conclusion

Having addressed all outstanding issues, Applicants respectfully request reconsideration and allowance of the pending claims. The Commissioner is authorized to apply any charges and credit any overpayments to Deposit Account No. 19-0733.

Respectfully submitted,

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John P. Iwanicki, Reg. No. 34,628
BANNER & WITCOFF, LTD.
28 State Street, 28th Floor
Boston, MA 02109
(617) 720-9600